Amendments to the Specification:

Please replace the paragraph extending from page 2, line 13 to line 24, with the following rewritten paragraph:

--One result of all these available choices for creating documents is that data for image generation often comprise a large proportion of the data in the file of a computer-generated document. In addition, file sizes for images are generally large, as images must be defined at a sufficient resolution or level of detail ~~in order~~ to support the continuous nature of many images, particularly when viewed by the human eye. Furthermore, when a font is selected for use in displaying text in a document, the entire font may be generated, and all of the characters in the font stored with the document, and may contribute to the large file sizes.--

Please replace the paragraph extending from page 3, line 1 to line 20, with the following rewritten paragraph:

--Thus, one challenge for operating system and application software developers has been to find ways to improve the efficiency of output file transfer and storage. One method of improving these efficiencies is to reduce the size of files containing images. One way to reduce file size is to exploit the fact that in documents containing text displayed using fonts, often only a few characters in a particular font set ~~is~~ are used. One technique for reducing the amount of font data in documents is known as font subsetting. This technique is used to create a font and include in ~~it~~ the font only those characters that appear in the text of the document. For example, a Japanese font set may contain several thousand characters and may be oriented to print text in horizontal rows. If only several hundred different characters are actually used in the document, only the characters used in a

GUNNISON, McKAY & HODGSON, L.L.P.
Garden West Office Plaza, Suite 220
1900 Garden Road
Monterey, California 93940
(831) 655-0880
Fax (831) 655-0888

document ~~will be~~ are created and stored using the font subset method, thus saving a great deal of time and storage space as compared with generating and storing the entire font.--

Please replace the paragraph extending from page 3, line 21 to page 4, line 2, with the following rewritten paragraph:

--However, the font subsetting technique discussed above may lack flexibility in certain applications. Font subsetting also involves high overhead for each font selected. In particular, in font subsetting, for each font used in an output file, the font must be located on the computer system, where ~~it~~ the font is usually stored ~~on~~ in a memory or other storage medium as a font file. The font in the font file must be uncompressed and decrypted, and the characters included in the output file must be identified and parsed. Including the font in the output file using a font subset typically requires defining a header, creating and defining the font, generating drawing functions for drawing characters, and including the subset of characters used in the file. The font subset may also need to be compressed and encrypted as a font file. Thus, for output files where many different fonts are used, there is potentially a great deal of processing and data storage overhead associated with the font subsetting technique.--

Please replace the paragraph extending from page 4, line 3 to line 21, with the following rewritten paragraph:

--Furthermore, font subsetting recognizes only duplication of characters defined within a font set, and does not recognize duplication of characters between font sets, or duplication of other images. For example, a document may contain Japanese characters, some of which may be defined using a Japanese font set oriented to print characters in horizontal rows. In

GUNNISON, McKAY & HODGSON, L.L.P.
Garden West Office Plaza, Suite 220
1900 Garden Road
Monterey, California 93940
(831) 655-0880
Fax (831) 655-0888

addition, some characters may be defined using a Japanese font set oriented to print characters in vertical rows. Many of the Japanese characters used in these two font sets are the same, as generally only the Roman characters within the sets are rotated. Using the font subset method, two fonts would be built that contained instances of the particular characters printed while that font was in use. If the same character were used in each font, ~~then~~ two instances of the exact same bitmap would be included in the output file generated. To use this technique, a new font subset must be created for each font used in the document.--

Please replace the paragraph extending from page 4, line 22 to line 26, with the following rewritten paragraph:

--These and other known techniques do not provide a flexible, easy to implement method of storing images such that a particular image is stored only once, regardless of the font sets with which ~~it~~ the particular image is associated, or whether ~~it~~ the particular image is indeed associated with any font set.--

Please replace the paragraph extending from page 8, line 14 to page 9, line 3, with the following rewritten paragraph:

--A method 130 (Fig. 1) in an embodiment of the present invention, provides the functionality for storing and retrieving images ~~in order~~ to provide more efficient transmission of output files to an output device, such as printer 117, and more efficient storage of output files in a storage medium, such as memory 110 or 111. In an embodiment of the inventive method illustrated at 200 in Fig. 2, a cache 135 comprising one or more bitmaps is created and stored with an output file. Bitmaps are created from images to be transmitted

GUNNISON, McKAY & HODGSON, L.L.P.
Garden West Office Plaza, Suite 220
1900 Garden Road
Monterey, California 93940
(831) 655-0880
Fax (831) 655-0888

to the output device at create bitmap operation 210. When an image is to be transmitted to the output device in method 200, the cache is examined at search cache operation 220 to determine whether the image to be transmitted generates a match with a bitmap already stored on the cache. If a match is found, at output file addition operation 230, the unique identifier of the bitmap matching the image to be transmitted is retrieved from the cache 135 and written to the output file, along with a location to draw the existing bitmap. In the embodiment of the present invention shown in FIG. 2, a gray level specifying the intensity of the bitmapped image written to the output file may be defined. Note, however, that the intensity of the image may be specified without defining a gray level; for example, the intensity may be defined within the bitmap itself, or by the output device displaying the image.--

Please replace the paragraph extending from page 9, line 13 to line 28, with the following rewritten paragraph:

--Fig. 3 describes an embodiment 300 of a method of the present invention for determining whether a bitmap generated for an output file matches a bitmap currently stored in the cache. First, in determine dimensions operation 310, the dimensions of the output bitmap are determined. The dimensions of the output bitmap are then compared to the dimensions of bitmaps currently stored in the cache, ~~in order~~ to identify a subset of potential matching bitmaps within the cache, wherein each bitmap in the subset has the same dimensions as the output bitmap. In one embodiment of the present invention, the output bitmap comprises a two-dimensional array of bits, and thus the dimensions of the output bitmap comprise two values, a length value and a width value. Note, however, that bitmaps of more than two dimensions may potentially be employed in embodiments of the present invention.--

GUNNISON, McKAY & HODGSON, L.L.P.
Garden West Office Plaza, Suite 220
1900 Garden Road
Monterey, California 93940
(831) 655-0880
Fax (831) 655-0888

Please replace the paragraph extending from page 9, line 29 to page 10, line 3, with the following rewritten paragraph:

--In length value check operation 320, it is determined whether the length value of the output bitmap is represented in the cache. If the length value is represented in the cache, ~~then~~ it is determined whether the width value of the output bitmap is represented in the cache at width value check operation 330. If the length value of the output bitmap is not represented in the cache, ~~then~~ the output bitmap does not match any bitmap in the cache and the output bitmap must be added to the cache at add bitmap to cache operation 340. This operation continues at generate length element operation 410 on Fig. 4.--

Please replace the paragraph extending from page 10, line 16 to line 21, with the following rewritten paragraph:

--At width value check operation 330 in Fig, 3, if the width value of the output bitmap is represented in the cache, ~~then~~ each bitmap having width and length values matching the output bitmap is examined to determine if ~~it~~ the bitmap matches the output bitmap in bitmap match check operation 350.--

Please replace the paragraph extending from page 9, line 22 to line 28, with the following rewritten paragraph:

--If the width value of the output bitmap is not represented in the cache, ~~then~~ the output bitmap is added to the cache at add bitmap to cache operation 360. A width value element is created and included in the cache at generate width index operation 420. The output bitmap is then added to the cache at store output bitmap and unique identifier operation 430.--

GUNNISON, McKAY & HODGSON, L.L.P.
Garden West Office Plaza, Suite 220
1900 Garden Road
Monterey, California 93940
(831) 655-0880
Fax (831) 655-0888

Please replace the paragraph extending from page 11, line 1 to line 10, with the following rewritten paragraph:

--If no match is identified, ~~then~~ the output bitmap is added to the cache at add bitmap to cache operation 370. The output bitmap is added to the cache, indexed by the length element and width element matching the output bitmaps dimensions at store output bitmap and unique identifier operation 430. However, if a match is identified at check operation 350, ~~then~~ the unique identifier associated with the matching cached bitmap is retrieved at add unique identifier to output file operation 230.--

\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\
\\

GUNNISON, McKAY & HODGSON, L.L.P.
Garden West Office Plaza, Suite 220
1900 Garden Road
Monterey, California 93940
(831) 655-0880
Fax (831) 655-0888